



Unit for disinfection and deodorisation of air in premises - comprises UV gas-discharge tube, high-voltage power supply, pulse generator, capacitor, transformer and control block, fan and pump

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Patent Family

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Filing Details

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Abstract:

RU 2092191 C

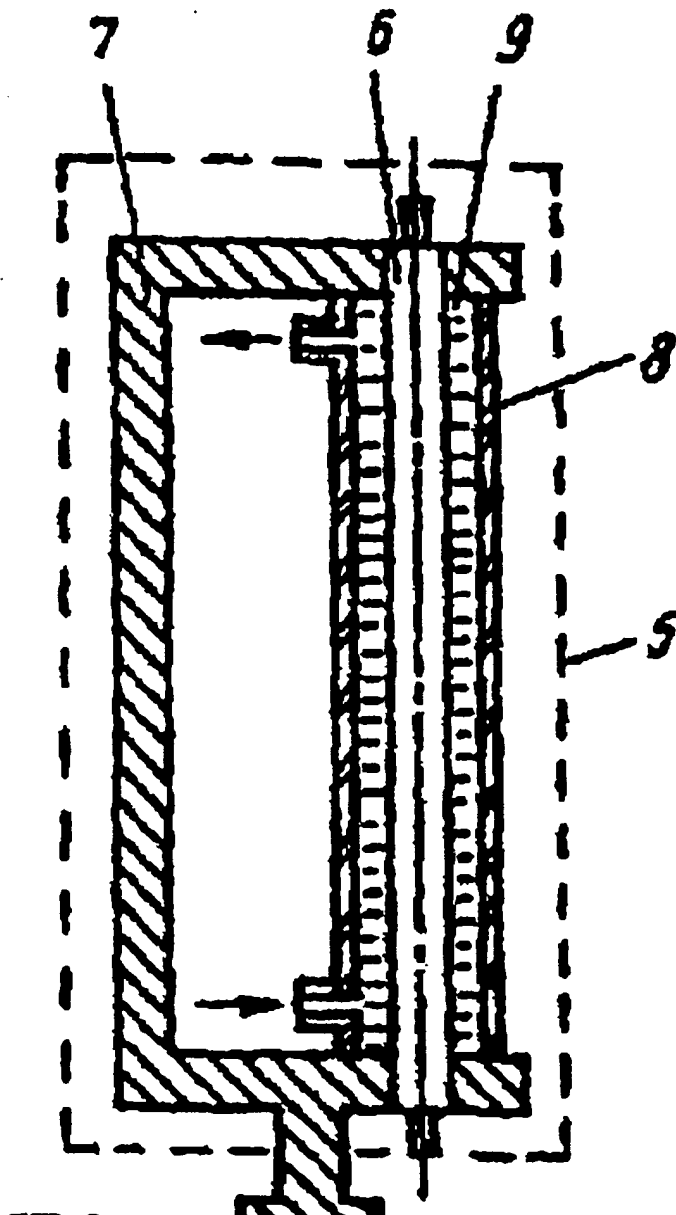
A unit for disinfection and deodorisation of air in premises comprises housing (1) with fastened irradiator (5) containing UV source in the form of pulse-mode gas-discharge tube (6) mounted vertically in holder (7). The tube (6) is connected to power supply block (2) and placed in quartz casing (8) filled with distilled water (9) for cooling and the suppression of ozone-forming radiation. The tube (6) is filled with an inert gas as e.g. xenon under pressure close to atmospheric as e.g. 300-700 mm Hg. The power supply and control block (2) contain high-voltage d.c. generator (10), pulse generator for ignition (11), capacitor (12) and control circuit (13). The tube (6) is connected to the power supply and control block (2) through the pulse-mode transformer (14) with ferrite core; the primary winding is connected to the ignition generator (11), and the secondary winding is in series with capacitor (12) and tube (6). The discharge contour formed by capacitor (12), secondary winding of transformer (14) and gas-discharge tube (6) has the parameters which satisfy the relation:

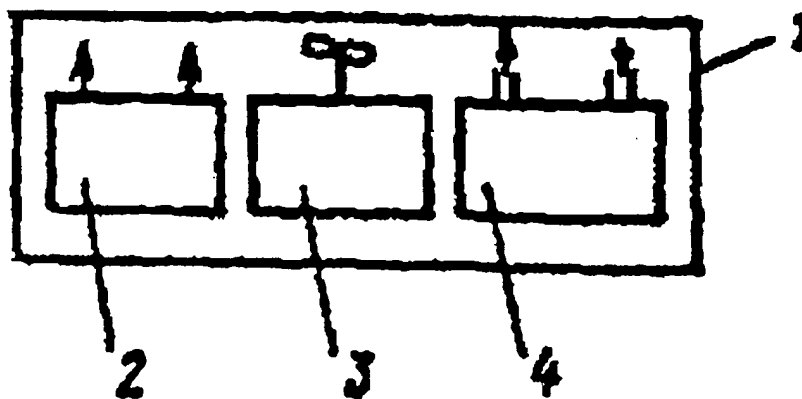
the quantity $(U^2/Adh)(C/L_0)^{1/2}$ is in the limits from 0.05 to 1, where U is the voltage on capacitor (V); C is the capacitance (F); L_0 is the initial inductance of contour (H); d is the inner diameter of gas-discharge tube (m); h is the distance between electrodes of tube (m); and $A=109$ is a constant coefficient (W/m^2).

USE -The unit is useful in particular for disinfection of air in surgeries, outpatient units, clinics, hospitals, bacteriological laboratories, etc.

ADVANTAGE - The unit has reduced total energy dose because of high-Intensity pulsed UV-radiation of continuous spectrum, reduced time of processing to a few minutes, and improved safety and convenience.

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